

**REMARKS**

Claims 16-22 and 57-70 were pending on the March 12, 2009 mailing date of the non-final Office Action. Claims 59 and 66 are being cancelled. Claims 16, 57, 60, 61, 62, 64, 67, and 68 are being amended. Support for the claim amendments and the new claims can be found in the specification at least on pages 9-11. Reconsideration of the action and further examination are respectfully requested.

**Objections**

Claims 61-62 and 68 were objected to for minor informalities. These claims have been amended to correct the noted informalities.

**§ 112 Rejections**

Claims 59 and 66 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Claims 60 and 67 were rejected as allegedly being indefinite. In order to expedite prosecution, claims 59 and 66 are being cancelled and claims 60, and 67 have been amended to correct the noted deficiencies. Applicant respectfully requests the Examiner to withdraw the § 112 rejections.

**§ 103 Rejections**

Claims 16-22 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,134,532 ("Lazarus") in view of European Patent Application No. EP 0,597,630 ("Addison") in view of U.S. Patent No. 6,298,348 ("Eldering"). Claims 57 and 64 were rejected as allegedly being unpatentable over Lazarus in view of U.S. Patent No. 5,974,412 ("Hazlehurst"). Claims 58, 60, 65, and 67 were rejected as allegedly being unpatentable over Lazarus in view of Hazlehurst and further in view of U.S. Patent No. 5,493,677 ("Balogh"). Claims 59 and 66 were rejected as allegedly being unpatentable over Lazarus in view of Hazlehurst and further in view of U.S. Patent 6,216,134 ("Heckerman"). Claims 61-63 and 68-70 were rejected as allegedly being unpatentable over Lazarus in view of Hazlehurst further in view of Eldering. Applicant respectfully traverses the rejections.

Claim 16 recites “organizing advertisements according to their meaning into a **lexicon**, the **lexicon defining elements of a semantic space . . . identifying one or more advertisements in the semantic space related to the received concept and the one or more concepts close in meaning to the received concept** based on meanings of the received concept and the one or more concepts.” The Examiner states that Lazarus teaches these features and cites column 1 lines 44-58, col. 2 lines 39-41, column 3 lines 29-47, column 4, lines 64-67, column 5, lines 10-17, column 8, lines 58-65, col. 9, lines 7-14, and col. 14 line 54 – col. 15, line 30. The Applicant respectfully disagrees.

Lazarus is directed to selecting and presenting targeted entities based on tracking observed behavior on a user-by-user basis and utilizing an adaptive vector space representation for both information and behavior. *See Abstract.*

Applicant respectfully asserts that Lazarus does not disclose or teach “organizing advertisements according to their meaning into a **lexicon, the lexicon defining elements of a semantic space and represented by a network of interconnected meanings**,” as recited in claim 16. The cited portions of Lazarus describe that web pages, banner advertisements, coupons and other textual or symbolic information can be represented as a summary content vector by forming the normalized weighted vector sum of the content vectors of the words (symbols) in the page or description of the product or service. *See Col. 5, lines 10-17.* The Lazarus system “computes an initial entity vector for each ad or entity in the system” based on a textual description of the entity. The “entity vector is computed as a normalized weighted sum of the word content vectors that are in the advertisement” *See id. at lines 64-68.* In the Lazarus system, “more ads can be sold in a thematic region of interest than in previous system since all ads are selected on the basis of vector comparisons and not exact matches.” *See Col. 9, lines 7-14.* The relied upon portions also describe that to enable the selection of data or information, a text to entity vector representation transformation is required. *See Col. 14, lines 55-59.* The Lazarus system uses “an informational representation called entity or content vectors” that are “a high dimensional, real vector representation that encodes contextual similarity.” *See Col. 4, lines 64-67.*

Applicant respectfully asserts that the relied upon portions of Lazarus only describe advertisements being represented as a summary content vector. The summary content vector,

however, is not a “lexicon defining elements of a semantic space and . . . represented as a network of interconnected meanings,” as recited in claim 1. In fact, the content vectors are “high dimensional, real vector representations that encode contextual similarity.” Applicant respectfully asserts that the relied upon portions of Lazarus fail to teach or suggest Applicant’s claimed lexicon.

Applicant respectfully asserts that the relied upon portions of Lazarus also do not teach or suggest “identifying one or more advertisements in the semantic space **related to the received concept and the one or more concepts close in meaning to the received concept based on meanings of the received concept and the one or more concepts**,” as recited in claim 16.

The cited portions describe in the background section that some current banner advertising selection techniques including simplistic first generation techniques based on stat information and sophisticated second generation ad selection systems that make sure of predisclosed user preferences. *See Col. 1, lines 44-58.* The cited portions also describe that in keyword based ad selection systems the ads are selected on the basis of one or more user provided words, but this provides a major drawback in that the system admin must manually choose the keywords associated with each ad and the keyword selection technique does not account for previous user behavior. *See Col. 3, lines 29-35.* The ad selector only uses a set of human-selected keywords in the current inventory based upon the current search query, and synonyms of user provided words are not automatically targeted without a thesaurus or synonym list. *See id. at 44-49.*

Lazarus is not selecting advertisements in a “semantic space” but selecting them from vectors. Also, Lazarus does not identify an advertisement “based on meanings of the received concept.” The portions relied upon by the Examiner acknowledge that previously advertisements were selected based on keywords, but there were major drawbacks. Accordingly, the Lazarus system went beyond keyword describing selections of advertisements *based on user behavior.* *See Col. 16, lines 58-67.* Lazarus does not select advertisements based on any “meanings of the received concept” much less “based on meanings of the received concept and the one or more concepts,” as recited in claim 16. Claims 17-22 depend from claim 16 and are allowable for at least the same reasons as set forth above with respect to claim 16.

Claim 57 recites “organizing advertisements according to their meaning into a lexicon, the lexicon defining elements of a semantic space and represented by a network of interconnected meanings; receiving an input term; identifying a first point in the semantic space associated with the input term based on an interpretation of potential meanings of the input term; determining a first semantic sub-space that includes all of the elements of the semantic space within a predetermined radius of the first point; identifying, in the first semantic sub-space, an advertisement proximate in semantic distance to the search term, wherein the semantic distance identifies how closely related the advertisement is to the search term; and providing the advertisement in response to the search term.” Claim 57 is allowable for at least the same reasons as set forth above with respect to claim 16. Claims 58-63 depend from claim 57 and are allowable for at least the same reasons as set forth above with respect to claim 57.

Claim 64 is directed to a system comprising organizing advertisements according to their meaning into a lexicon, the lexicon defining elements of a semantic space and represented by a network of interconnected meanings; receiving an input term; identifying a first point in the semantic space associated with the input term based on an interpretation of potential meanings of the input term; determining a first semantic sub-space that includes all of the elements of the semantic space within a predetermined radius of the first point; identifying, in the first semantic sub-space, an advertisement proximate in semantic distance to the search term, wherein the semantic distance identifies how closely related the advertisement is to the search term; and providing the advertisement in response to the search term. Claim 64 is allowable for at least the same reasons as set forth above with respect to claim 16. Claims 65-70 depend from claim 64 and are allowable for at least the same reasons as set forth above with respect to claim 64.

#### Conclusion

For the foregoing reasons, the Applicants submit that all the claims are in condition for allowance. By responding in the foregoing remarks only to particular positions taken by the Examiner, the Applicants do not acquiesce with other positions that have not been explicitly addressed. In addition, the Applicants selecting some particular arguments for the patentability of a claim should not be understood as implying that no other reasons for the patentability of that claim exist. Finally, the Applicants' decision to amend or cancel any claim should not be

Applicant : Adam J. Weissman et al.  
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understood as implying that the Applicants agree with any positions taken by the Examiner with respect to that claim or other claims.

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Respectfully submitted,

Date:June 3, 2009

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